Application No: 09/828,621
Filing Date: April 6, 2001
Applicants: John D. Newbold et al.
For:NOZZLE FOR PRECISION LIQUID DISPENSING AND METHOD OF MAKING

IN THE CLAIMS

{MARKED UP VERSION}

1. A nozzle for delivering a measured quantity of viscous liquid comprising:

a) an opening defined by a perimeter and a cylindrically-shaped barrel wall extending from said perimeter downward to a break point defined by a circle spaced-apart from said opening;

b) means for connecting said barrel wall of said nozzle to a reservoir from which a viscous liquid is transferable to said nozzle;

c) a cone-shaped wall extending downward from said circular break point and then inward there from to a circular exit opening; and,

d) a straight, small-diameter exit tube, of uniform diameter, extending from said circular exit opening to a circular exit aperture for dispensing the liquid from said nozzle;

e) wherein there is a controlled ratio of the internal diameter of said exit tube and the wall thickness of said exit tube.

2. *(CANCEL)*

3. *(CANCEL)*

4. The nozzle for delivering a measured quantity of viscous liquid of Claim 1 wherein the ratio of the internal diameter of said exit tube to the wall thickness of said exit tube exceeds 7.5.

5. The nozzle for delivering a measured quantity of viscous liquid of Claim 1 wherein said opening is circular and said horizontal perimeter is about 25 mm in diameter.

6. *(CANCEL)*

7. *(AMMEND)* The nozzle for delivering a measured quantity of viscous liquid of (Claim 6) Claim 1 wherein said cone-shaped wall extending downward from said circular break point and then inward there from to a circular exit opening has a wall convergence between about 5° and about 20°.

8. *(AMMEND)* The nozzle for delivering a measured quantity of viscous liquid of (Claim 6) Claim 1 wherein said cone-shaped wall extending downward from said circular break point and then inward there from to a circular exit opening has a wall convergence of about 10°.

9. *(CANCEL)*

10. *(CANCEL)*

11. *(AMMEND)* The nozzle for delivering a measured quantity of viscous liquid of (Claim 6) Claim 1 wherein said flare wall extends inward from said perimeter about (5 num.) 5 mm .

12. *(CANCEL)*

13. *(AMMEND)*

13. *(AMMEND)* The nozzle for delivering a measured quantity of viscous liquid of (Claim 6) Claim 1 wherein said cylindrically-shaped barrel wall extends downward from said flare wall at an angle of about 2° with the vertical.

14. *(CANCEL)*

15. *(AMMEND)* The nozzle for delivering a measured quantity of viscous liquid of (Claim 6) Claim1 wherein said cone-shaped wall extends downward from said circular break point at an angle of about 15° with the vertical.

16. (CANCEL)

17. (CANCEL)

18. (CANCEL)

19. (CANCEL)

20. (CANCELLED FOR AMMENDMENT A)